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| 10/617,722 | 07/14/2003 | Ching-Chung Lai | MR3003-49 | 4200 |
| 4586 | 7590 | 05/31/2005 | EXAMINER | |
| ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043 | | | STIGLIC, RYAN M | |
| | | | ART UNIT | PAPER NUMBER |

2112

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,722

Applicant(s)

LAI ET AL

Examiner

Ryan M. Stiglic

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 1-20 are pending and have been examined.
2. Claims 1-20 are rejected.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 14-20 recite, "when said connection port is not used, said USB controlling apparatus is switched to operate in a device function mode." Figures 2 and 3 of applicants' drawings shows the connection port 25 placed between a USB cable (power, D+, D-, and ground) and the controller chip. As one of ordinary skill in the pertinent art can clearly see, the connection port 25 must *always* be used to transfer data from either the host controller or the device function circuit. Furthermore, applicants' specification discloses, "In step 305, the

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connection port is switched to the device function circuit by the path switch, the power switch is turned off and the pull-up switch is turned on *such that the USB interface of the controller chip is operated as device and to be established connection with another computer.*" The keywords here are "establish connection with another computer" which clearly demonstrates the connection port 25 is used. The Examiner respectfully submits that by following the applicants' method (Fig. 4) and claim limitation (claims 14-20) the controller chip 20 will always function as a host device because the connection port is always used therefore never entering the device function mode as claimed.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 14-20 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a substantial asserted utility or a well established utility.

As one of ordinary skill in the pertinent art can clearly see, the connection port 25 must *always* be used to transfer data from either the host controller or the device function circuit. Furthermore, applicants' specification discloses, "In step 305, the connection port is switched to the device function circuit by the path switch, the power switch is turned off and the pull-up switch is turned on *such that the USB interface of the controller chip is operated as device and to be established connection with another computer.*" The keywords here are "establish connection with another computer" which clearly demonstrates the connection port 25 is used. The

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Examiner respectfully submits that by following the applicants' method (Fig. 4) and claim limitation (claims 14-20) the controller chip 20 will always function as a host device because the connection port is always used therefore never entering the device function mode as claimed.

Claims 14-20 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuda et al. (US 20030023804A1).

For claim 1 Matsuda discloses:

A USB controlling apparatus adapted for data transfer between computers, said USB controlling apparatus comprising

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- a host controller providing a host function of USB interface for said USB controlling apparatus (Fig. 1, 43a; [0061]);
- a device function circuit providing a device function of USB interface for said USB controlling apparatus (Fig. 1, 44a; [0062]);
- at least one connection port having a set of USB data lines D+ and D- for connecting to a USB device or a USB cable by way of data transfer (Fig. 1, 49; [0061]); and
- a path switch unit connected to said host controller, said device function circuit and said USB data lines, used to switch a connection path of said USB data lines between said host controller and said device function circuit (Fig. 1, 43b; [0061-0063]).

For claim 2 Matsuda discloses:

The USB controlling apparatus as in claim 1, further comprising a power adapting line (Fig. 1, line between devices 48a and 48b) with a power switch (Fig. 1, 48d), having one end connected to a power line on a motherboard and another end connected to USB device and USB cable (Fig. 1, PL+ line connected to VCC; [0069,0076]).

For claim 3 Matsuda discloses:

The USB controlling apparatus as in claim 2, further comprising a series connection of a pull-up resistor (Fig., 1, 47b) and a pull-up (Fig. 1 47a) switch crossing between said power adapting line and said data line D+ ([0066-0067]. The Examiner also realizes that Matsuda discloses the inverter 47a may be configured as a transistor switch [0129]).

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For claim 4 Matsuda discloses:

The USB controlling apparatus as in claim 1, wherein said path switch unit is a multiplexer [0061].

For claim 5 Matsuda discloses:

The USB controlling apparatus as in claim 2, wherein said power switch is transistor circuit [0068].

For claim 6 Matsuda discloses:

The USB controlling apparatus as in claim 3, wherein said pull-up switch is transistor circuit [0129].

For claim 7 Matsuda discloses:

The USB controlling apparatus as in claim 3, wherein said path switch is operated in one of manual operation and automatic operation (The operation of the switch is automatic with respect to the connection situation [0079 and 0073-0074].

For claim 8 Matsuda discloses:

The USB controlling apparatus as in claim 3, wherein said power switch is turned on [0076] and said pull-up switch is turned off (Paragraph [0074] discloses a pull-down switch that is activated when the device is in host function mode. This in effect is the same operation as having the pull-up switch turned off since the data is differentially amplified [0077] and there is no need to pull

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up the data terminal lines) when said connection path of said path switch is connected to said host controller.

For claim 9 Matsuda discloses:

The USB controlling apparatus as in claim 3, wherein said power switch is turned off [0079] and said pull-up switch is turned [0080] on when said connection path of said path switch is connected to said device function circuit.

For claim 10 Matsuda discloses:

The USB controlling apparatus as in claim 2, further comprising a series connection of another pull-up resistor and another pull-up switch crossing between said power adapting line and said data line D- [0067].

For claim 11 Matsuda discloses:

The USB controlling apparatus as in claim 1, further comprising a power switch arranged at a USB power line on a motherboard, said connection port having a power switch controller (Fig. 1, "MC" 41; [0068-0069;0076]) with output node connected to said power switch in order to turn on and off said power switch.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda.

For claim 12 Matsuda teaches:

The USB controlling apparatus as in claim 11, further comprising a pull-up resistor (Fig. 1, 47b) and a pull-up switch (Fig. 1, 47a) in serial connection between the power adapting line and the data line D+. Matsuda fails to show said pull-up switch having one end connected to said data line D+, instead Matsuda demonstrates the resistor attached to the D+ line and the switch placed after the resistor. The Examiner does not see any patently distinct advantage as to the placement of the switch and resistor with respect to the power adapting line and the D+ line. In either case, the resistor is “floating” in a high impedance state when the switches are not active. As such the Examiner respectfully submits the order of the pull-up resistor and pull-up switch is reversible without any changes to the operation of the system.

With respect to “said pull-up resistor having one end connected to said power switch and said USB power line”, Matsuda teaches the VCC at the top of Fig. 1 is supplied from the power supply circuit 48a [0075-0076]. Likewise, the same is true for the inverter 47a since the inverter must have a power source to reference when it inverts the logic low input. Furthermore, when

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the device is functioning in device mode, the VCC power source is received from a second device through the VCC port in connector 49 [0080]. Although Matsuda does not show (by way of drawings) the routing of VCC through the device 40 the pull-up switch/resistor is obviously connected to the power-switch because the power switch controls how power is routed throughout the device.

For claim 13 Matsuda teaches:

The USB controlling apparatus as in claim 12, wherein said power switch and said pull-up switch are transistor circuit [0068,0129].

For claim 14 Matsuda teaches:

A method for said USB controlling apparatus as in claim 3, said method comprising following steps:

- setting a host function mode as a default operation mode of said USB controlling apparatus (Matsuda does not explicitly state which mode the device operates in by default. Instead Matsuda teaches that the operation mode of the device is determined automatically such that no matter what the previous mode of operation was the device would be switched to the correct function mode. Therefore the choice of which mode to place the device in as a matter of default is arbitrary in that there is no benefit to assigning default status to a certain mode because the automatic nature of the invention of Matsuda insures the device will function in the correct operating mode when another device is attached to the device of Matsuda);

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- detecting whether said connection port is used (As stated above in the rejections under 35 U.S.C § 112 and 101, the connection port is *always* used for data transfer. For the sake of advancing prosecution the Examiner interprets “detecting whether said connection port is used” as meaning detecting when a slave device is attached to the device 40 of Matsuda. The connection port would therefore be used to provide a power source and path to ground for the data lines.);
- when said connection port is used, said USB controlling apparatus is operated in said host function mode [0072-0077];
- when said connection port is not used, said USB controlling apparatus is switched to operate in a device function mode [0078-0081].

For claim 15 Matsuda teaches:

The method as in claim 14, wherein said data lines are connected to said host controller by said path switch [0063], said power switch is turned on [0076] and said pull-up switch is turned off (Paragraph [0074] discloses a pull-down switch that is activated when the device is in host function mode. This in effect is the same operation as having the pull-up switch turned off since the data is differentially amplified [0077] and there is no need to pull up the data terminal lines) when said USB controlling apparatus is operated in said host function mode.

For claim 16 Matsuda teaches:

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The method as in claim 14, wherein said data lines are connected to said device function circuit by said path switch [0063], said power switch is turned off [0079] and said pull-up switch is turned on [0080] when said USB controlling apparatus is operated in said device function mode.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The various prior art of record cited on the PTO-892 accompanying this Office Action pertain to USB devices that can function both as a Host and slave device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M. Stiglic whose telephone number is 571.272.3641. The examiner can normally be reached on Monday - Friday (6:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571.272.3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMS



PAUL R. MYERS
PATENT EXAMINER